

REMARKS

Claims 14-28 are pending in the application.

Appropriate headings have been added to the specification, and claims from the literal translation have been replaced by claims drafted in conformity with U.S. Patent practice. An abstract has also been added to the specification.

The application in its amended state is believed to be in condition for allowance. However, should the Examiner have any comments or suggestions, or wish to discuss the merits of the application, the undersigned would very much welcome a telephone call in order to expedite placement of the application into condition for allowance.

Respectfully submitted,



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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 – 14: Cancelled

15. (New) An inductive miniature component, comprising:

a winding element (1,11) of ferrite material embodied as an essentially flat, multi-sided part, wherein three windings (2X, 2Y, 2Z) are disposed on said winding element (1,11) such that axes of said windings extend in three spatial directions (X, Y, Z) that are respectively perpendicular to one another, wherein a first winding (2X) and a second winding (2Y) are wound around said winding element (1, 11) over a length and width thereof, in two directions that are perpendicular to one another in a central plane of said winding element, wherein a third winding (2Z) is wound around a narrow side of said winding element (1, 11) following the periphery of said winding element;

first guide elements (1.1 – 1.4; 6.1, 6.2) disposed on an underside of said winding element (1, 11) for guiding one side of said third winding (2Z), wherein ends (2.1X, 2.1Y) of said first and second windings (2X, 2Y) are wound around respective ones of said first guide elements;

second guide elements (1.5 – 1.8, 11.5-11.8) disposed on an upper side of said winding element (1,11) for guiding another side of said third winding (2Z), wherein said second guide elements are made of ferrite material and are monolithic with said winding elements (1,11);

a coil plate (3, 13) of electrically non-conducting, non-ferromagnetic material, wherein said winding element (1, 11) and said coil plate (3, 13) are placed together and interconnected, wherein said coil plate is provided with recesses (3.1 – 3.4, 13.1-13.4) that

extend over a thickness of said coil plate, wherein said recesses have an inner contour and arrangement that corresponds to an outer contour and arrangement of said first guide elements (1.1 – 1.4; 6.1, 6.2), and wherein said winding element (1, 11) and said coil plate (3, 13) are placed together such that said first guide elements engage into said recesses (3.1, 3.4) and corners or projections (3.5, 3.6; 13.5, 13.6) provided on said coil plate (3, 13), wherein ends (2.1Z) of said third winding (2Z) are respectively wound around said corners or projections.

16. (New) A miniature component according to claim 15, wherein said guide elements (1.1 – 1.4) are made of ferrite material and are monolithic with said winding element (1).

17. (New) A miniature component according to claim 15, wherein said first guide elements (6.1, 6.2) are made of polymeric material.

18. (New) A miniature component according to claim 17, wherein said first guide elements (6.1, 6.2) are integrated individually or in pairs into a part (6) of polymeric material, and wherein said part is provided with at least one upwardly extending pin (7.1, 7.2) that is adapted to be inserted into an associated whole (5.1 – 5.4) on the underside of said winding element (11).

19. (New) A miniature component according to claim 15, wherein said first and second guide elements project outwardly from the periphery of said winding element (1) and are disposed in such a way that when viewed in a circumferential direction, each of said second guide elements (1.5 – 1.8) is essentially disposed in front of a corner of said winding element (1), while the associated first guide element (1.1 – 1.4) is disposed behind such corner.

20. (New) A miniature component according to claim 15, wherein said first and second guide elements project outwardly from the periphery of said winding element (11), and wherein said first guide elements (6.1, 6.2) are disposed in pairs on two opposite sides of said winding element (11).

21. (New) A miniature component according to claim 15, wherein the thickness of said coil plate (3, 13) corresponds to a thickness of said first guide elements (1.1 – 1.4; 6.1, 6.2).

22. (New) A miniature component according to claim 15, wherein said recesses (3.1 – 3.4, 13.1 – 13.4) of said coil plate (3, 13) open toward a periphery of said coil plate.

23. (New) A miniature component according to claim 15, wherein inner edges of said recesses (3.1-3.4, 13.1-13.4) of said coil plate (3, 13), and adjoining portions of a prescribed width on a base and/or on a narrow side of said coil plate (3, 13) are provided with a metallic coating (4.1 – 4.4, 14.1 – 14.4).

24. (New) A miniature component according to claim 15, wherein said corners or projections (3.5, 3.6; 13.5, 13.6) of said coil plate (3, 13) are provided on narrow sides and/or on adjoining bottom areas of a prescribed width with a metallic coating (4.5, 4.6; 14.5, 14.6).

25. (New) A miniature component according to claim 15, wherein said first guide elements (1.1-1.4) are embodied as hook-shaped feet that extend outwardly.

26. (New) A miniature component according to claim 19, wherein said second guide elements (1.5 – 1.8) each have a projection that extends outwardly transverse to its length and over an adjacent corner.

27. (New) A method of producing an inductive miniature component, including the steps of:

providing a winding element (1) of ferrite material, wherein first elements (1.1 – 1.4) of ferrite material are monolithically disposed on an underside of said winding plate, and wherein second guide elements (1.5 – 1.8) of ferrite material are monolithically disposed on an upper side of said winding element;

winding a first and second winding on said winding element (1) in two directions that are disposed perpendicular to one another and in a central plane of said winding element;

winding ends of said first and second windings around said first guide elements

(1.1 – 1.4);

applying an adhesive to prescribed areas on the underside of said winding element (1);

providing a coil plate (3) having recesses (3.1 – 3.4) that are associated with said first guide elements (1.1 – 1.4), wherein inner edges of said recesses, and adjoining areas of defined width on a base and/or narrow side of said coil plate (3), are provided with a metallic coating;

joining said winding element (1) and said coil plate (3) together;

winding a third winding along a narrow side of said winding element (1) in a space between said second guide elements (1.5 – 1.8) and said first guide elements (1.1 – 1.4) and/or a surface of said coil plate (3);

winding ends of said third winding around corners or projections (3.5, 3.6) of said coil plate (3), wherein narrow sides and/or adjoining areas of defined width on a bottom of said corners or projections are provided with a metallic coating;

connecting said ends of said windings with respective ones of said metallic coatings of said coil plate (3) by soldering; and

removing said component for measurement and packaging.

28. (New) A method of producing an inductive miniature component, including the steps of:

providing a winding element (11) of ferrite material, wherein first guide elements (11.5 – 11.8) of ferrite material are monolithically disposed on an upper side of said winding element;

providing second guide elements (6.1, 6.2) of polymeric material and securing said second guide elements to an underside of said winding element (11);

winding a first and a second winding on said winding element (11) in two

directions that are disposed perpendicular to one another and in a central plane of said winding element;

winding ends of said first and second windings around said second guide elements (6.1, 6.2);

applying an adhesive to prescribed areas on the underside of said winding element (11);

providing a coil plate (13) having recesses (13.1 – 13.4) that are associated with said second guide elements (6.1, 6.2), wherein inner edges of said recesses, and adjoining areas of defined width on a base and/or narrow side of said coil plate (13), are provided with a metallic coating;

joining said winding element (11) and said coil plate (13) together;

winding a third winding along a narrow side of said winding element (11) in a space between said first guide elements (11.5 – 11.8) and said second guide elements (6.1, 6.2) and/or a surface of said coil plate;

winding ends of said third winding around corners or projections (13.5, 13.6) of said coil plate (13), wherein narrow sides and/or adjoining areas of defined width on a bottom of said corners or projections are provided with a metallic coating;

connecting said ends of said windings with respective ones of said metallic coatings of said coil plate (13) by soldering; and

removing said component for measuring and packaging.